



ELECTRONIC TUBE REFERENCE

315A

Rectifier - Half Wave electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

RECTIFIER

Mercury-vapor half-wave transmitting rectifier for high-voltage supplies, providing approximately 12.5 kV inverse-voltage capability and ampere-class average current with low arc drop.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	5 V / 10 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Rectifier	
PEAK INVERSE VOLTAGE	4000 V
NOMINAL OUTPUT CURRENT	2 A
PEAK FORWARD CURRENT	8 A
FORWARD VOLTAGE DROP	10 V
<i>Promoted fields audited from printed ratings/characteristics; remaining published values preserved as parameters.</i>	

Mercury-vapor half-wave transmitting rectifier.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1956 Western Electric Tubes

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1956 WESTERN ELECTRIC TUBES

Section 1 · Rectifier

CHARACTERISTICS

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filling	Mercury vapor	—

OTHER

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum peak anode voltage	4000 V	—



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

2026 Western Electric 300s

Published test conditions and operating points. Values on this page are preserved as reported by this source.

2026 WESTERN ELECTRIC 300S

Section 1 · Rectifier

CHARACTERISTIC

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
The	315 volt	The 315A is a half-wave, mercury-vapor rectifier tube for use in high-voltage rectifier
Average Cathode Current (Quadrature Operation)	2 amperes	Average Cathode Current (Quadrature Operation) 2 amperes
Voltage	5 Volt	Voltage 5.0 volts similar socket and the 321A a W. E. 148A or similar
Nominal Current	10 amperes	Nominal Current 10.0 amperes socket. A special anode terminal connector is required.
Required Heating Time	30 seconds	Required Heating Time 30 seconds Mount in a vertical position only—base end down. A

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Tube Voltage Drop—Approximate	10 Volt	Tube Voltage Drop—Approximate 10 volts C i r c u i t N u m b e r A t 7 . 5 k v . A t 1 2 . 5 k v . P h a s e r a t u r e
at	10 kilovolts	at 10 to 50° C. ambient temperature 7.5 kilovolts I 6 7000 11 5 0 0 6
should be maintained to within	5 volt	should be maintained to within 5% of the rated value. Operation of the filaments at a voltage
angle between the filament and anode voltage is approximately	90 volt	angle between the filament and anode voltage is approximately 90 electrical degrees. With this
Published value	468 CENTIGRADE	.468'^ DIA.OF 2 PINS CONDENSED MERCURY TEMPERATURE IN DEGREES CENTIGRADE
Voltage	2.5 Volt	Voltage 2.5 volts is required. Mount in vertical position only—base end
Nominal Current	7.5 amperes	Nominal Current 7.5 amperes down. A clearance of at least 2 inches should be
Required Heating Time	15 seconds	Required Heating Time 15 seconds allowed between the bulb and any adjacent object.
over-voltage	50 volt	over-voltage 50% At 7.5kv. I n
over-voltage application	8 volt	over-voltage application 8=^=2 8=1=2 seconds
Tube Voltage Drop—^Approximate	1515 Volt	Tube Voltage Drop—^Approximate 1515 voltsvolts A 1 2300 0.64
Voltage	2.5 Volt	Voltage 2.5 volts of at least inches should be allowed between the
Nominal Current	3 amperes	Nominal Current 3.0 amperes bulb and any adjacent object.
Required Heating Time	10 seconds	Required Heating Time 10 seconds
over-voltage	50 volt	over-voltage 50% At 3500 volts I n
over-voltage application	6 volt	over-voltage application 6=«=2 seconds
Tube Voltage Drop—^Approximate	15 Volt	Tube Voltage Drop—^Approximate 15 volts A 1 1000 0.25
at	15 kilovolts	at 15 to 30° C. ambient temperature 20 kilovolts
at	15 kilovolts	at 15 to 40° C. ambient temperature 10 kilovolts
at	30 kilovolts	at 30 to 40° C. forced air temperature 20 kilovolts
Voltage	5 Volt	Voltage 5.0 volts Circuit Outputs: Load Current —
Nominal Current	19 amperes	Nominal Current 19.0 amperes Output Voltage DC Amps.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Required Heating Time	120 seconds	Required Heating Time 120 seconds I n - Quad
over-voltage	50 volt	over-voltage 50%
over-voltage application	25 volt	over-voltage application 25= ⁵ seconds B 2 3000 6000 4 8
Tube Voltage Drop— ^Approximate	10 Volt	Tube Voltage Drop—^Approximate 10 volts 4 6000 8 16
Voltage	5 Volt	Voltage 5.0 volts of at least 4 inches should be allowed between the bulb
Nominal Current	42 amperes	Nominal Current 42.0 amperes and any adjacent object. Connections to the filament
Required Heating Time	300 seconds	Required Heating Time 300 seconds and anode terminals' should be flexible.
Tube Voltage Drop— ^Approximate	15 Volt	Tube Voltage Drop—^Approximate 15 volts Desigma- o f Inverse Inverse Opera Opera
at	15 kilovolts	at 15 to 30° C. ambient temperature 20 kilovolts G 6 4000 8000 25 50
at	15 kilovolts	at 15 to 40° C. ambient temperature 10 kilovolts H 6 9000 18000 3 0
at	30 kilovolts	at 30 to 40° C. forced air temperature 20 kilovolts I 6 9000 18000 30
over-voltage application	30 volt	over-voltage application 30 O u t p u t Vo l t a g e DC Amps.
Tube Voltage Drop— Approximate	15 Volt	Tube Voltage Drop—Approximate 15 volts I n - Quad
at	15 kilovolts	at 15 to 30° C. ambient temperature 22 kilovolts G 6 4000 9000 25 50
at	15 kilovolts	at 15 to 40° C. ambient temperature 10 kilovolts H 6 9000 20000 —
at	30 kilovolts	at 30 to 40° C. forced air temperature 22 kilovolts I 6 9000 20000 30
Voltage	6 Volt	Voltage 6.0 volts nector is required. Mount in a vertical position only—
Nominal Current	6.75 amperes	Nominal Current 6.75 amperes base end down. A clearance of at least 2 inches should
Required Heating Time	30 seconds	Required Heating Time 30 seconds be allowed between the bulb and any adjacent object.
over-voltage	50 volt	over-voltage 50% O u t p u t Vo l t a g e DC Amps.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
over-voltage application	8 volt	over-voltage application 8= ² seconds Circuit Number At 7.5 k v. P h a s e r a t u r e
Tube Voltage Drop—Approximate	10 Volt	Tube Voltage Drop—Approximate 10 volts Designa of Inverse Opera Opera
over-voltage application	15 volt	over-voltage application 15= ⁵ seconds I n - Quad
Tube Voltage Drop—Approximate	10 Volt	Tube Voltage Drop—Approximate 10 volts C i r c u i t N u m b e r A t 7 . 5 k v. A t 1 2 . 5 k v. P h a s e r a t u r e
at	10 kilovolts	at 10 to 50@ C. ambient temperature 7.5 kilovolts I 6 7000 11 5 0 0 6

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Max. Time of Averaging Anode Current	15 seconds	Max. Time of Averaging Anode Current 15 seconds F 6 7000 11500 3
Maximum Peak Inverse Anode Voltage G	6 Volt	Maximum Peak Inverse Anode Voltage G 6 3000 5000 5 10
Maximum Instantaneous Anode Current	2.5 amperes	Maximum Instantaneous Anode Current 2.5 amperes B
Maximum Average Anode Current	0.64 ampere	Maximum Average Anode Current 0.64 ampere 4600 1.28
Max. Time of Averaging Anode Current	5 seconds	Max. Time of Averaging Anode Current 5 seconds E 3 3500 1.92
Maximum Peak Inverse Anode Voltage	7.5 Volt	Maximum Peak Inverse Anode Voltage 7.5 kilovolts F 6 7000 1.92
Maximum Instantaneous Anode Current	1 ampere	Maximum Instantaneous Anode Current 1.0 ampere B 2 1000
Maximum Average Anode Current	0.25 ampere	Maximum Average Anode Current 0.25 ampere C 4
Max. Time of Averaging Anode Current	5 seconds	Max. Time of Averaging Anode Current 5 seconds E 3 1500 0.75
Maximum Peak Inverse Anode Voltage	3500 Volt	Maximum Peak Inverse Anode Voltage 3500 volts F 6 3000 0.75
Max. Time of Averaging Anode Current	30 seconds	Max. Time of Averaging Anode Current 30 seconds I 6 9000 18000 12
Max. Time of Averaging Anode Current	60 seconds	Max. Time of Averaging Anode Current 60 seconds
Maximum Peak Inverse Anode Voltage F	6 Volt	Maximum Peak Inverse Anode Voltage F 6 9000 18000 15

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Max. Time of Averaging Anode Current	60 seconds	Max. Time of Averaging Anode Current 60 seconds E 3 4500 10000 15 30
Maximum Peak Inverse Anode Voltage F	6 Volt	Maximum Peak Inverse Anode Voltage F 6 9000 20000 15 —
Max. Time of Averging Anode Current	15 seconds	Max. Time of Averging Anode Current 15 seconds G 6 3000 5 10
Maximum Peak Inverse Anode Voltage	7.5 Volt	Maximum Peak Inverse Anode Voltage 7.5 kilovolts H 6 7000 6
Max. Time of Averaging Anode Current	15 seconds	Max. Time of Averaging Anode Current 15 seconds F 6 7000 11 5 0 0 3

TUBE TINKER

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